

Atypical acute promyelocytic leukemia with tripartite fusion gene *PML::RARG::LINE-L2a* is resistant to ATRA but sensitive to arsenic-based therapy

Authors

Sanyun Wu,^{1*} Yalan Yu,^{1*} Xiang Lin,^{2*} Xiaosu Zhou,^{3,4*} Yuanyuan Zhou,^{1*} Ping Luo,¹ Hui Shen,¹ Jing He,¹ Li Liu,¹ Xiaoyan Liu,¹ Dong Lei Zhang,¹ Yanan Liu,¹ Hui Xiao,¹ Fuling Zhou,¹ Hongxing Liu^{3,4} and Zhanglin Zhang²


¹Department of Hematology, Zhongnan Hospital of Wuhan University, Wuhan, Hubei; ²Department of Blood Transfusion, First Affiliated Hospital of Nanchang University, Jiangxi Key Laboratory of transfusion, Institute of Transfusion, Jiangxi Academy of Clinical Medical Sciences, Jiangxi Medical College, Nanchang University, Nanchang, Jiangxi; ³Precision Medicine Center, Beijing Lu Daopei Institute of Hematology, Beijing and ⁴Division of Laboratory Medicine, Hebei Yanda Lu Daopei Hospital, Langfang, China

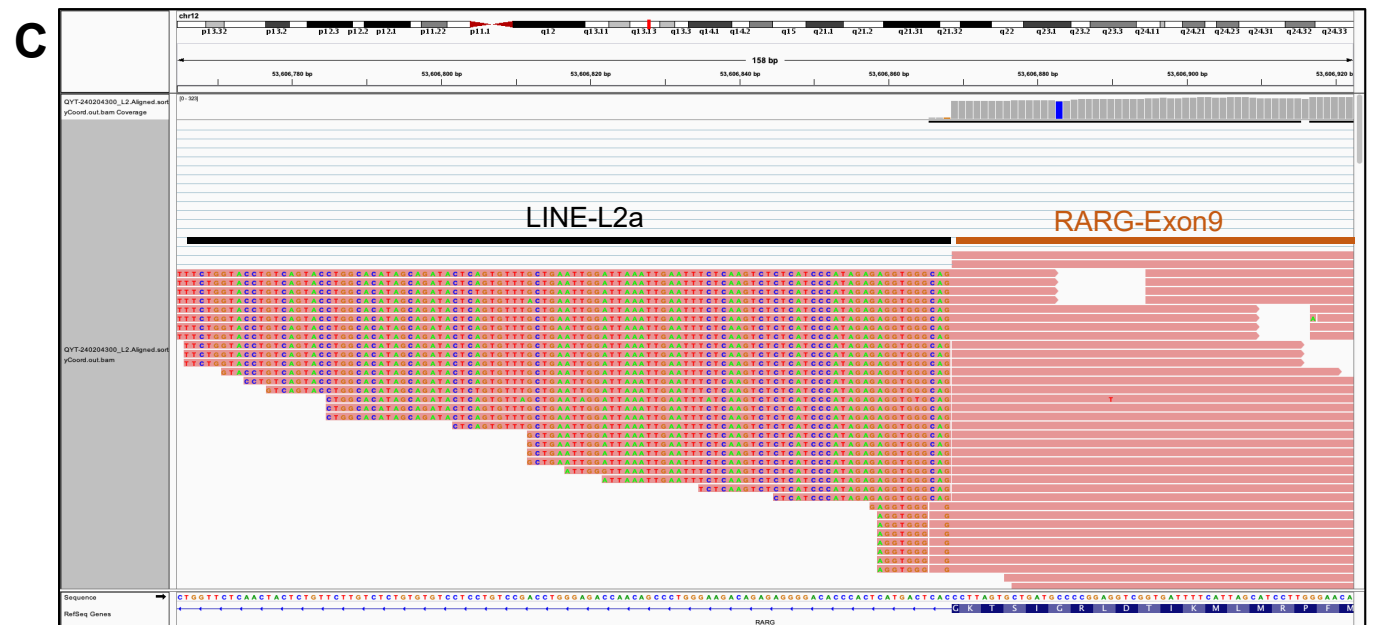
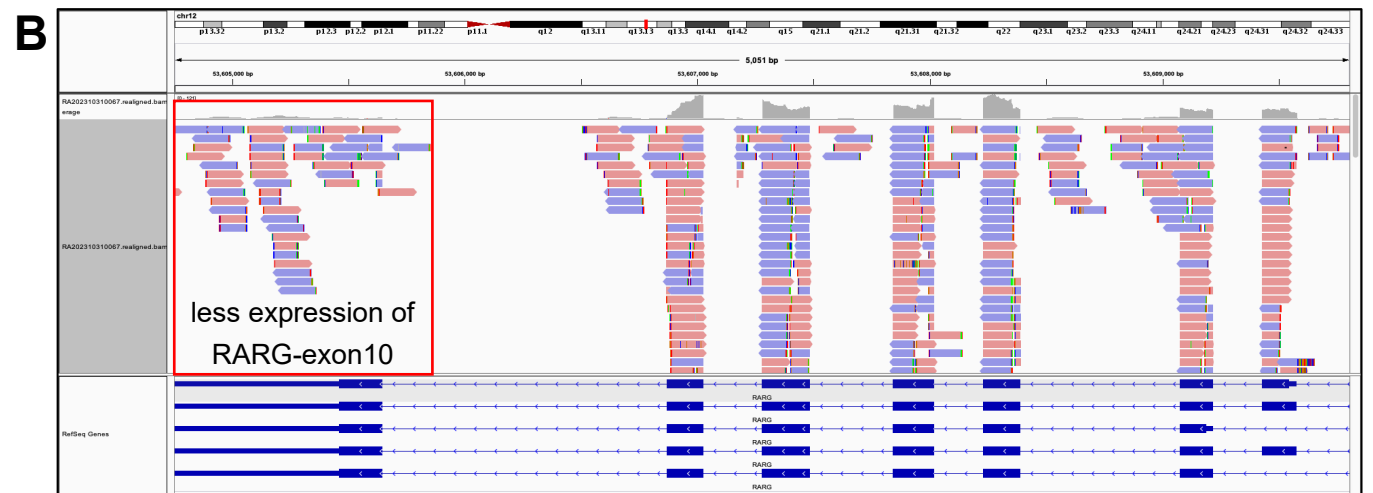
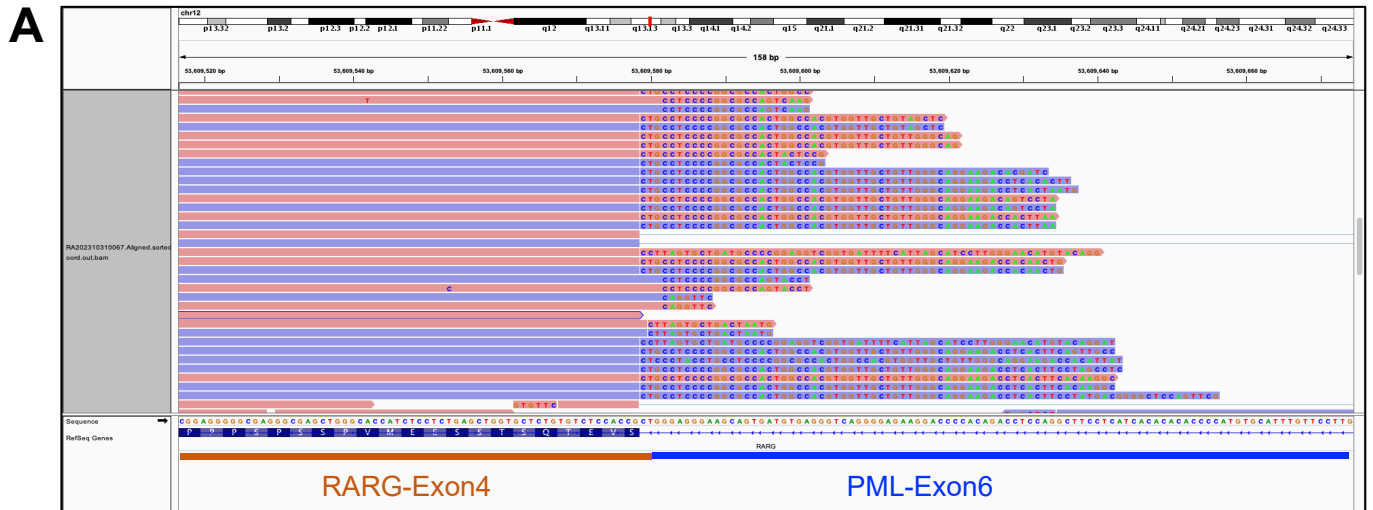
**SW, YY, XLin, XZ and YZ contributed equally as first authors.*

Correspondence:
Z. ZHANG - ndyfy02270@ncu.edu.cn
H. LIU - starliu@pku.edu.cn
F. ZHOU - zhoufuling@whu.edu.cn

<https://doi.org/10.3324/haematol.2025.287318>

Received: January 22, 2025.
Accepted: June 4, 2025.
Early view: June 12, 2025.

©2025 Ferrata Storti Foundation
Published under a CC BY-NC license 



Supplemental figure 1 Fusion gene analysis of the patient by whole transcriptome sequencing.

(A) Integrative Genomics Viewer view of the fusion of *PML* exon 6 with *RARG* exon 4.

(B) Integrative Genomics Viewer view of the expression *RARG* exon4 to exon 10.

(C) Integrative Genomics Viewer view of the fusion of *RARG* exon 9 with transposon *LINE-L2a*